

Section 6-5: Rhombi and Squares

By the end of this lesson, you should be able to answer:

- How do you recognize and apply the properties of rhombi and squares?
- How do you determine whether quadrilaterals are rectangles, rhombi, or squares?

Vocabulary:

1. Rhombus

- Properties of a rhombus:

2. Square

- Properties of a square:

Theorems:

Diagonals of a Rhombus

6.15:

6.16:

Conditions for Rhombi and Squares

6.17:

6.18:

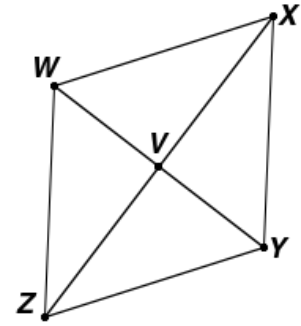
6.19:

6.20:

Example 1: The diagonals of rhombus $WXYZ$ intersect at V . Use the given information to find each measure or value.

a. If $m\angle WZX = 39.5^\circ$, find $m\angle ZYX$.

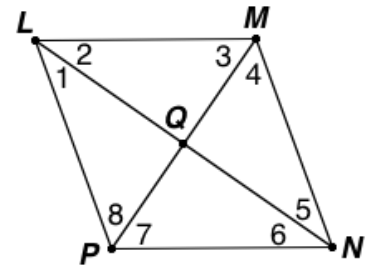
b. If $WX = 8x - 5$ and $WZ = 6x + 3$, find x .



Example 2: Prove the following.

Given: $LMNP$ is a parallelogram, $\angle 1 \cong \angle 2$, and $\angle 2 \cong \angle 6$

Prove: $LMNP$ is a rhombus



Example 3: Matt Mitarnowski is measuring the boundary of a new garden. He wants the garden to be square. He has set each of the corner stakes 6 feet apart. What does Matt need to know to make sure that the garden is a square?

Example 4: Determine whether parallelogram $ABCD$ is a *rhombus*, *rectangle*, or *square* for $A(-2, -1)$, $B(-1, 3)$, $C(3, 2)$, and $D(2, -2)$. List all that apply, and explain how you know.

Problem Set:

"Courage is saying, 'Maybe what I'm doing isn't working; maybe I should try something else.'" - Anna Lappe